

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

DALI WIRELESS, INC., a Delaware Corporation,

Plaintiff,

V.

CORNING, INC., a New York Corporation,
and CORNING OPTICAL
COMMUNICATIONS LLC, a North Carolina
Limited Liability Company,

Defendants.

Case No. _____

JURY TRIAL DEMANDED

COMPLAINT

Plaintiff Dali Wireless, Inc. (“Dali”) files this Complaint against Defendants Corning, Inc., and Corning Optical Communications LLC (collectively “Corning”).

NATURE OF THE CASE

1. This is a case of infringement of U.S. Patent No. 9,826,508 (the “’508 patent”).
2. Defendant Corning has been making, selling, using and offering for sale, DAS systems such as Optical Network Evolution (“ONE”) products that infringe the ’508 patent in violation of 35 U.S.C. § 271. Dali seeks appropriate damages to compensate for Corning’s infringement.

THE PARTIES

3. Dali is a Delaware corporation having its center of operations in Burnaby, British Columbia, Canada, where all its technical and financial employees, documents, engineering, and product development are based. It also has an address in Menlo Park, California for forwarding of domestic mail and telephone calls to its center of operations.

4. Founded in 2006, Dali began as a designer and manufacturer of power amplifiers used in radio frequency (“RF”) communications. Dali is known within the industry as an innovator in providing end-to-end, software defined digital radio distribution solutions that can be implemented in Distributed Antenna Systems (“DAS”) used for cellular, public safety, and other RF communications. Dali is a world-wide innovator in digital radio distribution systems and digital predistortion technology that revolutionized in-building and outdoor wireless coverage and capacity. Dali’s groundbreaking products have been consistently recognized by industry publications. For example, Dali has been recognized as a “Hot Tech Innovator” by ABI Research and was ranked No. 1 in innovation in the latest ABI Research report, “In-Building Wireless, DAS Vendor Competitive Assessment.” Dali’s systems improve upon traditional DAS by allowing the dynamic allocation of wireless coverage and capacity.

5. Corning, Inc. is a New York Corporation with offices at 8201 North FM 620, Austin, Texas, 78726. Corning, Inc. is registered to conduct business in the state of Texas and has appointed the Corporation Service Company, located at 211 E. 7th St., Suite 620, Austin, Texas 78701, as its agent for service of process.

6. Corning Optical Communications LLC, is a North Carolina Limited Liability Company. On information and belief, Corning Optical Communications LLC is a wholly owned subsidiary of Corning, Inc.

7. On information and belief, Corning, Inc.’s operations in Austin, Texas are substantial and varied. For example, a search on LinkedIn.com for “Corning, Inc. Austin, Texas” returned 504 results. Corning, Inc. employees in Austin, Texas, list varied job titles such as “Sr. Litigation Counsel – Director eDiscovery, Privacy, and Cyber Security at Corning Incorporated,” “eDiscovery Advisor at Corning Incorporated,” “Marketing Manager at Corning Incorporated,”

“Global Product Line Manager,” and many others.¹

8. A significant part of Corning’s operations in Austin, Texas, involves networking and communications. In 2017, Corning Inc. announced the acquisition of virtually all of 3M’s Communication Markets Division that was headquartered in Austin, Texas.² The acquired division is in the business of providing optical fiber and copper passive connectivity solutions for the telecommunications industry and structured cabling solutions for telecommunications system integration services; the business had annual global sales of approximately \$400 million.³

9. A search on LinkedIn.com confirms that Corning’s business operations in Austin, Texas involve networking and communication. Corning Optical Communications employees in Austin, Texas, list varied job titles such as “Mold Build Project Manager,” “Federal Account Manager,” “Sales Engineer,” and “Market Development Director – In Building Solutions” among others.⁴

10. On information and belief, Corning operates at least two additional campuses in Texas, one in McAllen, Texas in the Southern District, and another in Keller, Texas in the Northern District.

11. By registering to conduct business in Texas and by maintaining facilities in Austin

¹ See https://www.linkedin.com/search/results/all/?keywords=corning%2C%20inc.%20Austin%20texas&origin=GLOBAL_SEARCH_HEADER, last accessed on September 8, 2020.

² See <https://www.corning.com/worldwide/en/about-us/news-events/news-releases/2017/12/corning-to-acquire-substantially-all-of-3ms-communication-markets-division.html>, last accessed on August 10, 2020.

³ See <https://investors.3m.com/news/news-details/2017/3M-to-Sell-Substantially-All-of-Its-Communication-Markets-Division/default.aspx>, last accessed on August 10, 2020.

⁴ See https://www.linkedin.com/search/results/all/?keywords=corning%20optical%20communications%20austin&origin=GLOBAL_SEARCH_HEADER, last accessed on September 8, 2020.

Texas, Corning has a permanent and continuous presence in the state of Texas and a regular and established place of business in the Western District of Texas.

JURISDICTION AND VENUE

12. This is an action for patent infringement arising under the Patent Laws of the United States, Title 35 of the United States Code.

13. This Court has original subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).

14. This Court has personal jurisdiction over Corning because Corning has a place of business and regularly transacts business in this District.

15. Corning has committed and continues to commit, acts of infringement of Dali's '508 patent in violation of the United States Patent Laws, and has made, used, sold, offered for sale, marketed and/or imported infringing products into this District. Corning's infringement has caused substantial injury to Dali, including within this District.

16. Venue is proper in this District pursuant to 28 U.S.C. §§ 1400 and 1391 because Corning maintains a regular and established place of business in this judicial district and has committed acts of infringement in this district.

THE '508 PATENT

17. The '508 patent is titled "Neutral Host Architecture for a Distributed Antenna System" and was issued by the United States Patent Office to Paul Lemson, Shawn Stapleton, and Sasa Trajkovic on November 21, 2017. A true and correct copy of the '508 patent is attached as Exhibit A.

18. Dali is the owner of all right, title and interest in and to the '508 patent with the full and exclusive right to bring suit to enforce the '508 patent.

19. The '508 patent is valid and enforceable under the United States Patent Laws.

FACTUAL BACKGROUND

20. From 2010 through 2014, under the terms of a non-disclosure agreement Corning extracted Dali's proprietary and patented technology know-how through a series of conferences and meetings through which Corning became well-informed of Dali's portfolio. For example, in 2011 Dali presented its proprietary technology to Corning, including information from various patent families. This presentation included Dali describing how its portfolio would block other competitors from entering the market without licensing its patents. Subsequently, Corning's IP counsel conducted an extensive review of Dali's patent portfolio and Corning provided feedback on the portfolio to Dali. In response to the presentation, Corning requested further detail on Dali's technology:

From: Cune, William P. [REDACTED]@corning.com]
Sent: Friday, March 18, 2011 10:08 AM
To: Lee, Albert
Cc: Lemson, Paul
Subject: RE: Meeting invitation: Dali Wireless - Corning DAS

Albert,

As discussed at the end of the call...

Thank you for the Dali management teams time today. We are very interested in learning more and investigating potential technology and product synergies. I'd like to push the technology discussion as far as we can to have our team really understand the capabilities and limits (there are always tradeoffs) and so they can properly advise our leadership on the core capabilities and benefits of collaboration. I'd also like to understand your commercial value proposition relative to the DAS, RRH, Picocell, enterprise femtocell, ALu Cube, etc. competition (product cost savings, turnkey cost savings, BTS cost savings, future proofing, upgradeability, etc.). I look forward to further discussions, if we agree to go that far.

I would also like to understand more about your current VC round, your funding history, and perhaps hear your investor pitch. This is not my area and I would need to involve our Strategy team but I think it is worth the discussion. Would you be interested in having these discussions with Corning and what is the timing?

Thank you,

Bill

Bill Cune

Program Director - IDAS
[REDACTED] wireless
[REDACTED] wired
[REDACTED]@corning.com

21. In May 2012, Corning and Dali began weekly teleconferences between Corning's

product line management team and Dali's technical personnel. From May through July of 2012, Corning's IP counsel conducted in-depth IP due diligence on Dali. Throughout the remainder of 2012 and 2013, Dali and Corning worked on various technical projects aimed at jointly providing DAS systems to AT&T.

22. On June 3, 2014, Corning's Corporate Development team met with Dali to discuss a potential acquisition. At the meeting, Dali again provided a detailed discussion of Dali's patented inventions. On July 5, 2014, Corning conducted extensive acquisition diligence at Dali's facility in Burnaby, Canada, diligence that included studying Dali's patents.

23. Through Corning's various diligence projects and conferences with Dali, Corning became well aware of the nature and scope of Dali's extensive patent portfolio. Despite having actual knowledge of Dali's patents, Corning made no efforts to ensure that its current and future products did not infringe Dali's many patents. Corning proceeded to incorporate Dali's patented technology into its own products despite such knowledge.

FIRST CAUSE OF ACTION
(PATENT INFRINGEMENT UNDER 35 U.S.C. § 271 OF '508 PATENT)

24. Dali re-alleges and incorporates by reference all of the foregoing paragraphs.

25. On information and belief, Corning has infringed and continues to infringe, either literally or under the doctrine of equivalents, one or more claims, including at least claim 1, of the '508 patent in violation of 35 U.S.C. §§ 271 et seq., directly and/or indirectly, by making, using, importing, selling, and/or offering for sale certain equipment and systems relating to Corning's ONE Wireless Platform, such as ONE's currently advertised Mid-Power Remote Unit or "MRU". See, <https://www.corning.com/media/worldwide/coc/documents/applications/wireless/wireless-specs/CMA-422-AEN.pdf> (last visited on July 21, 2020).

26. On information and belief, Corning has been and currently is infringing the '508

patent by the manufacture, use, sale, offer to sell and/or importation of its products including at least the ONE MRUs under 35 U.S.C. § 271.

27. Claim 1 of the '508 patent recites the following:

[preamble] A remotely reconfigurable remote radio head unit for transporting radio frequency signals, the remotely reconfigurable remote radio head unit comprising:

[A] at least one remotely reconfigurable access module adapted to receive reconfiguration parameters from a remote location,

[B] a plurality of band modules, each of the plurality of band modules having separately reconfigurable parameters in response to the reconfiguration parameters received from the at least one remotely reconfigurable access module, each of the plurality of band modules supporting one of a plurality of frequency bands of the radio frequency signals being transported, and

[C] an interface adapted to provide:

[C1] electrical and mechanical connection for mounting of the plurality of band modules; and

[C2] bidirectional digital communication between the at least one remotely reconfigurable access module and each of the plurality of band modules.

28. On information and belief, and based on publicly available information, at least Corning's ONE MRU satisfies each and every limitation of at least claim 1 of the '508 patent.

29. To the extent the preamble of claim 1 is determined to be limiting, Corning's ONE MRU provides the features described in the preamble. The preamble recites, "[a] remotely reconfigurable remote radio head unit for transporting radio frequency signals, the remotely reconfigurable remote radio head unit" Corning's ONE MRU is described in its user manual as a remote radio for transporting radio frequency signals. For example:

<p>The MRU is a mid-power (2 W) remote solution for the Corning ONE™ Wireless Platform system. The MRU provides remote indoor and outdoor coverage. It is a fiber-fed, compact and scalable multi-service solution designed to complement the Corning ONE Wireless platform by providing complete RF open space coverage for large-scale public venues such as campus applications.</p>

Corning Mid-Power Remote Unit (MRU) User Manual, Ex. B at 9. See also MRU Brochure at <https://www.corning.com/catalog/coc/documents/brochures/CMA-434-AEN.pdf> (last visited on July 21, 2020). Additionally, Corning's documentation explains that the MRU is remotely reconfigurable from the Headend Control Module. For example:

Management and configuration options are provided for each MRU service via a Web session to the headend control module (HCM). The HCM enables centralized, single-source local and remote management of all system elements.

Ex. B at 6. Thus, to the extent the preamble of claim 1 is limiting, Corning's ONE MRU meets it.

30. The Corning ONE MRU also meets all the requirements of limitation A of claim 1. Limitation A requires "at least one remotely reconfigurable access module adapted to receive reconfiguration parameters from a remote location." According to the MRU manual, the MRU has a module that hosts the uplink and downlink fiber optic connections to and from the upstream ICU.



Figure 2-1 MRU Main Modules

Ex. B at 13. For example, the below photograph shows the fiber optic connection to the ICU that carries uplink and downlink signals to and from the MRU:



Figure 4-15 Fiber Connections Towards ICU

Ex. B at 35. The MRU manual also shows several other connections to this module, such as a management port, external alarm connections, and RF expansion ports among others:

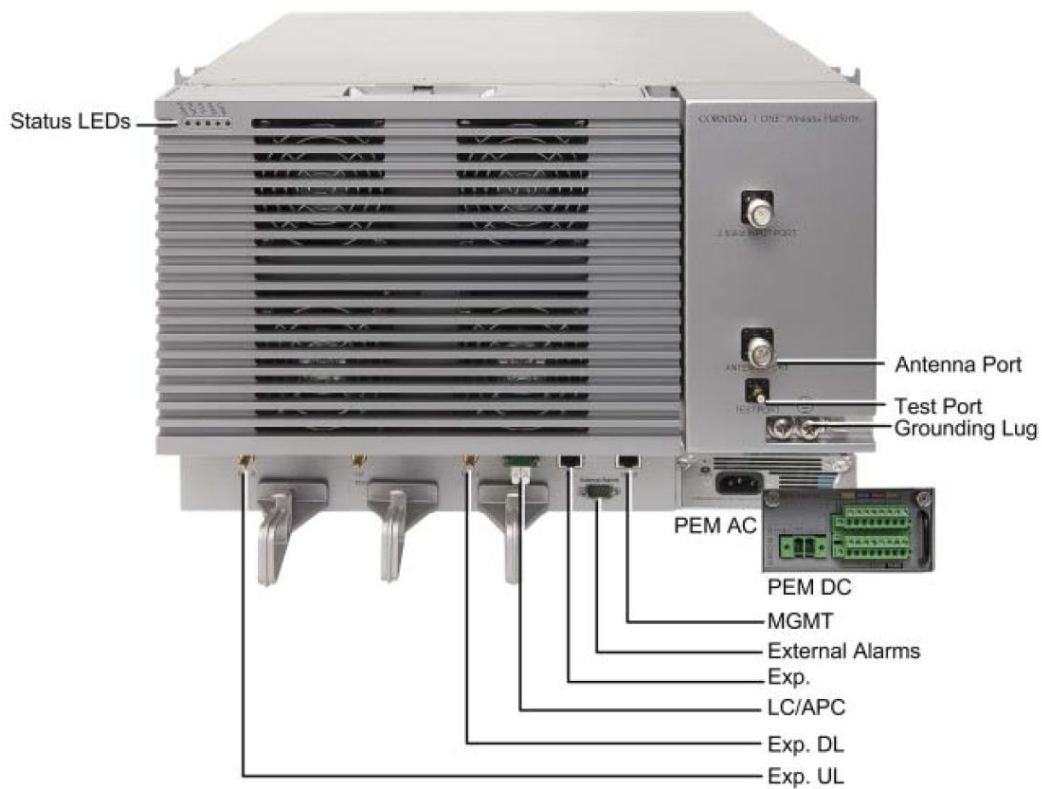


Figure 2-2. MRU External Interfaces

Ex. B at 14. On information and belief, this module handles communication and management signals and distributes them to various band modules, indicated as “Power Amplifier Modules” above. As such, this module is a remotely reconfigurable access module configured to receive reconfiguration parameters from a remote location. Therefore, Corning’s ONE MRU meets limitation A of claim 1.

31. The Corning ONE MRU also meets all the requirements of limitation B of claim 1. Limitation B requires, “a plurality of band modules, each of the plurality of band modules having separately reconfigurable parameters in response to the reconfiguration parameters received from the at least one remotely reconfigurable access module, each of the plurality of band modules supporting one of a plurality of frequency bands of the radio frequency signals being transported”. As shown above in Figure 2-1 of the MRU manual above, the MRU contains up to five band modules for each service, for example, LTE, ESMR800, PCS, AWS and WCS. Ex. B at 13. As described in the MRU manual, each of these services operates in different frequency ranges, or bands, and has configurable parameters such as gain:

Service/Band	LTE 700 MHz		ESMR800/ CELL850 MHz		PCS 1900 MHz		AWS 2100 MHz		WCS 2300 MHz	
RF Parameter	DL	UL	DL	UL	DL	UL	DL	UL	DL	UL
Frequency Range (MHz)	729-746 746-756	699-716 777-787	862-869/ 869-894	817-824/ 824-849	1930-1995	1850-1915	2110-215 5	1710-1755	2350 - 2360	2305 - 2315
Max Output Power Per Antenna Port (dBm)	30		30		33		33		33	
Input Power (dBm)	0 - 37		0 - 37		0 - 37		0 - 37		0 - 37	
UL Gain Range (dB)		-19 to 15		-19 to 15		-19 to 15		-19 to 15		-19 to 15
Input IP3 (dBm) AGC OFF Typical		-5		-5		-5		-5		-5
Input IP3 (dBm) AGC ON Typical		5		5		5		5		5
SFDR* (dB)		60		64		64		60		60
Max Intermod Distortion [dBm]	≤ -13		≤ -13		≤ -13		≤ -13		≤ -13	
UL NF*(dB)		12		12		12		12		12
Gain Flatness/Ripple (dB)	±2.0		±2.0		±2.0		±2.0		±2.0	

*Typical for single Remote Access Unit

** SFDR calculated with BW of 1.23MHz for the CELL and PCS and with 5MHz for the LTE, AWS and WCS.

Ex. B at 42. As such, the Corning ONE MRU meets limitation B of claim 1.

32. The Corning ONE MRU also meets all the requirements of limitation C1 of claim 1. Limitation C1 requires, “an interface adapted to provide” “electrical and mechanical connection for mounting of the plurality of band modules.” On information and believe, the modules appear to have electrical and mechanical connections to the chassis and modules of the MRU. For example, electrical power and communications are provided through the front of other modules in the MRU chassis and, on information and belief, are then connected to the band modules or Power Amplifier Modules. Additionally, mechanical connections are made to secure the band modules into the MRU chassis. As such, Corning’s ONE MRU meets limitation C1 of the ’508 patent.

33. The Corning ONE MRU also meets all the requirements of limitation C2 of claim 1. Limitation C2 requires, “an interface adapted to provide” “bidirectional digital communication between the at least one remotely reconfigurable access module and each of the plurality of band modules.” The MRU manual describes the management and control functions such as forwarding band module alarms to a monitoring system and controlling the output power of the band modules via SNMP.

- **Management and control** – alarm forward to NOC or standard element management system (EMS) via SNMP, software controlled output power and optical link auto gain control.

Ex. B at 9. Additionally, the screenshot from management system provided in the Corning ONE Wireless Platform MRU brochure shows various MRU alarms including one for each band module in the history pane, and also a tab for setting various RF parameters for the band modules. *Corning ONE Wireless Platform MRU*, Ex. C at 5. As such, the Corning ONE MRU meets limitation C2 of claim 1.

34. Accordingly, on information and belief, Corning’s ONE MRU meets all the limitations of, and therefore infringes, at least claim 1 of the ’508 patent.

35. As a result of Corning's infringement of the '508 patent, Dali has suffered and continues to suffer substantial injury and is entitled to recover all damages caused by Corning's infringement to the fullest extent permitted by the Patent Act, together with prejudgment interest and costs for Corning's wrongful conduct.

PRAYER FOR RELIEF

WHEREFORE, Dali respectfully requests judgment against Corning as follows:

A. That the Court enter judgment for Dali on all causes of action asserted in this Complaint;

B. That the Court enter judgment in favor of Dali and against Corning for monetary damages to compensate it for Corning's infringement of the '508 patent pursuant to 35 U.S.C. § 284, including costs and prejudgment interest as allowed by law;

C. That the Court enter judgment in favor of Dali and against Corning for accounting and/or supplemental damages for all damages occurring after any discovery cutoff and through the Court's entry of final judgment;

D. That the Court enter judgment that this case is exceptional under 35 U.S.C. § 285 and enter an award to Dali of its costs and attorneys' fees; and

E. That the Court award Dali all further relief as the Court deems just and proper.

JURY DEMAND

Dali requests that all claims and causes of action raised in this Complaint against Corning be tried to a jury to the fullest extent possible.

Date: December 4, 2020

Respectfully submitted,

FOLIO LAW GROUP PLLC

/s/ Cristofer I. Leffler

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